

## START HERE

**IMPORTANT! READ IMPORTANT SAFETY NOTICES AND REFER TO INSERT SHEET INSTRUCTIONS TITLED "REMOVING THE OLD DOOR/PREPARING THE OPENING". IF THE INSERT SHEET INSTRUCTIONS ARE NOT INCLUDED, CONTACT WAYNE-DALTON CORP. FOR A FREE COPY.**

If removing an existing door, carefully follow the directions given on the insert sheet instruction in the portion titled "Removing the Old Door".

**⚠WARNING! REMOVAL OF AN EXISTING DOOR CAN BE DANGEROUS. FOLLOW INSERT SHEET INSTRUCTIONS CAREFULLY, OTHERWISE SEVERE OR FATAL INJURY COULD RESULT.**

Begin the installation of the door by checking the opening. It must be the same size as the door. Vertical jambs must be plumb and the header level. Side clearance, from edge of door to wall, must be minimum of 3-1/2" (89 mm) on each side. Follow the steps below. The steps correspond to the illustrations on the garage door layout.

**IMPORTANT!** Stainless steel or P12000 Coated lag screws **MUST** be used when installing center bearing brackets, end bearing brackets, jamb brackets, operator mounting/support brackets and disconnect brackets on treated lumber (preservative-treated). Stainless steel or P12000 Coated lag screws are **NOT** necessary when installing products on un-treated lumber.

**NOTE:** It is recommended that 5/16" x 1-5/8" lag screws be pilot drilled using a 3/16" drill bit, and 5/16" x 2" lag screws, prior to fastening.

For proper opening preparation refer to the portion of the insert sheet instructions titled "Preparing the Opening".

**IMPORTANT!** It is recommended that doors 12' 0" wide and over be installed by two person, to avoid possible injury.

**NOTE:** Use this manual in conjunction with the windload specification sheet provided with your door.

**1**  
Secure the vertical track to the lower slot in the flagangle using (2) 1/4"-20 x 9/16" track bolts and (2) 1/4"-20 nuts. Repeat for other side.

**2**  
Measure the length of the vertical tracks. Using the Jamb Bracket Schedule (shown on Windload Specification Sheet), determine the placement of the jamb brackets for your door height. Secure jamb bracket(s) with (1) 1/4"-20 x 9/16" track bolt and nut.

**3 (NOT ILLUSTRATED)**  
**NOTE:** Refer to the Windload Specification Sheet for strutting schedule and illustrations. (Some struts may be factory installed)

**4**  
Uncoil the counterbalance cables and slip the loop at the ends of the cables over the milford pins on the bottom section. Insert a short shaft roller in the bottom bracket of the bottom section and insert a long shaft roller at #1 end hinge at the top of the bottom section, Fig. 4 and Fig. 7A. Repeat for other side.

**NOTE:** Bottom section can be identified by #1 end hinge, the factory attached bottom astragal and by the bottom bracket warning labels on each endstile.

**NOTE:** Verify that astragal does not protrude more than 1/2" past ends of the bottom section. If excess needs to be trimmed off, be careful not to stretch astragal, or it may end up shorter than section width.

**NOTE:** Refer to the Windload Specification Sheet for possible bottom bracket installation.

**IMPORTANT!** Right and left hand is always determined from inside the building looking out.

**5**  
Before installing the bottom section, measure and cut vinyl jamb weather-stripping (may not be included) for entire garage door opening. Vinyl weather seal must be installed prior to door installation. Attach the weather seal to the door jamb 1/8" to 1/4" past door jamb. Temporarily nail the weather-seal to the door jambs and header approximately 12" to 18" apart. This will help hold the bottom door section in place. Center the bottom section in the door opening. Level it using wooden shims under the bottom astragal as needed.

**6**  
Position the left hand vertical track over the rollers of the bottom section.

**NOTE:** Make sure the counterbalance cable is located between the rollers and the door jamb. Loosely fasten jamb brackets and flagangles to the jamb using 5/16" x 1-5/8" lag screws. Install the right hand vertical track the same way. Hang cables over flagangles.

**IMPORTANT!** The tops of the vertical tracks must be level from side to side. If the bottom section was shimmed to level it, then the vertical track on the shimmed side, must be raised the height of the shim.

**7**  
**NOTE:** The lock section can be identified by a #2 end hinge and by the yellow and black warning label attached to the right side of the section.

**NOTE:** The intermediate section can be identified by a #3 end hinge. #4 end hinge are used on the second intermediate section on five section high doors.

Insert long shaft rollers into both end styles of the lock section, Fig. 7A. With assistance lift section and place rollers over the tops of the vertical tracks. Install by guiding rollers into the vertical track on both sides and gently lowering the section onto the bottom section. Vertically align the mark near the center (on back) of the door, or vertically align the center styles on the face (on front) of the door. Install remaining sections, except for the top section, in the same manner.

The center hinges are installed by rotating the hinge leaf upward and secure the hinge to the above section with (3) 1/4"-14 x 5/8" self tapping screws, Fig. 7B.

Rotate both end hinge leaves upward and secure the hinges to the above section with (6) 1/4"-14 x 5/8" self tapping screws, Fig. 7A.

**IMPORTANT!** Push and hold hinge leaves up against the section while securing with 1/4"-14x 5/8" self tapping screws.

**8**  
**NOTE:** Please refer to fig 8A or 8B to determine which top bracket was supplied with your door. Follow the corresponding step below:

**8A)** To install the top brackets, place the top of bracket flush with bottom of the strut, even with the edge of the endcap. Fasten using (4) 1/4"-20 x 7/8" self drilling screws. Secure the top slide to the bracket using (1) 5/16"-18 carriage bolt and (1) 5/16"-18 nut. Repeat for other side.

**8B)** To install the top brackets, place the top of bracket flush with bottom of the strut, even with the edge of the endcap. Fasten using (4) 1/4"-20 x 7/8" self drilling screws. Loosen the carriage bolt holding the top slide to the bracket and reposition top slide as shown in Fig 8B and reattach using (2) 5/16"-18 carriage bolt. Repeat for other side.

**9**  
Place top section in the door opening and secure it temporarily by driving a nail into the header near the center of the door and bending it over the section. Insert rollers into top slides. Now fasten the hinges to the top section, Fig. 7A and Fig. 7B. Position flagangle between 1-11/16" (43 mm) to 1-3/4" (44 mm) from the edge of the door. Flagangles must be parallel to the door section ends. Now complete the vertical track installation on both sides by securing the center jamb brackets and tightening the other lag screws and track bolts, Fig. 6.

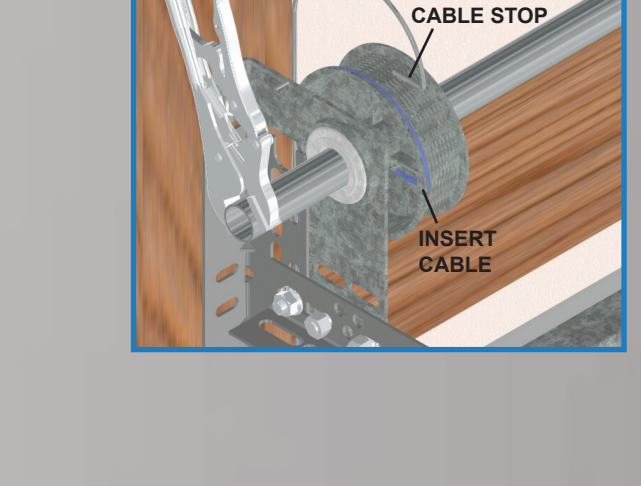
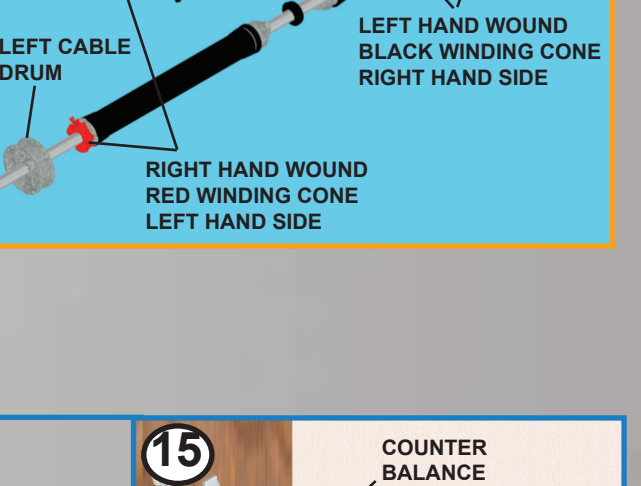
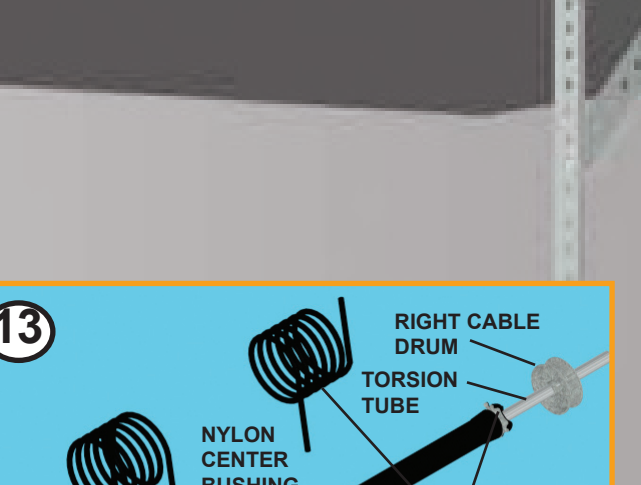
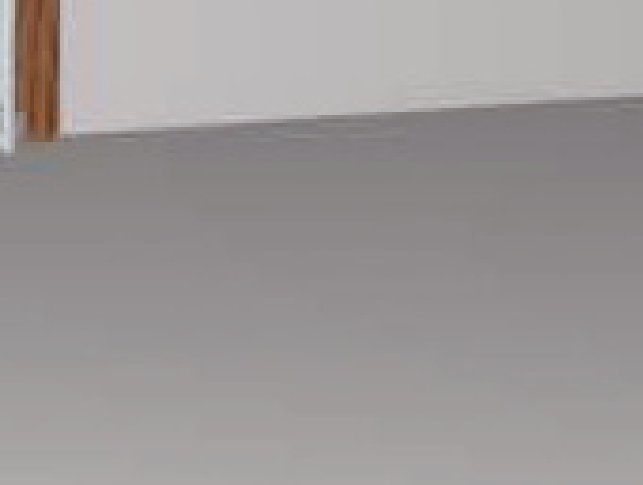
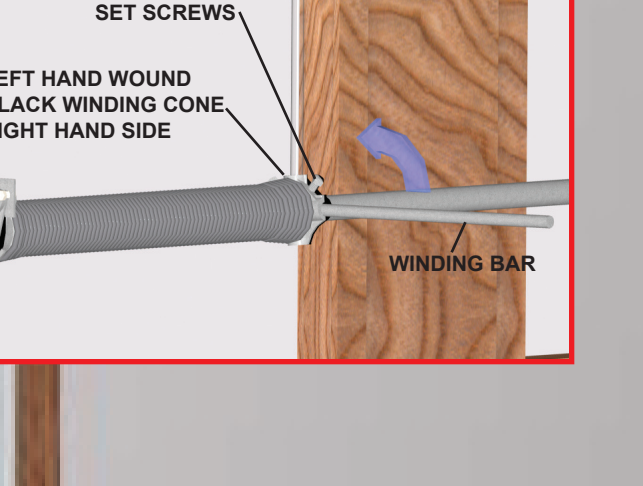
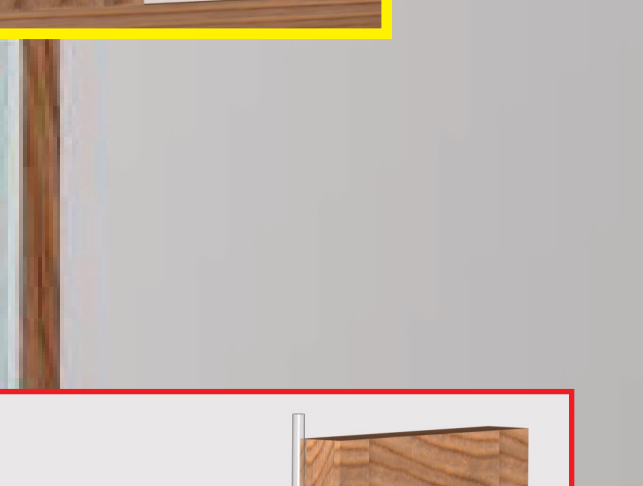
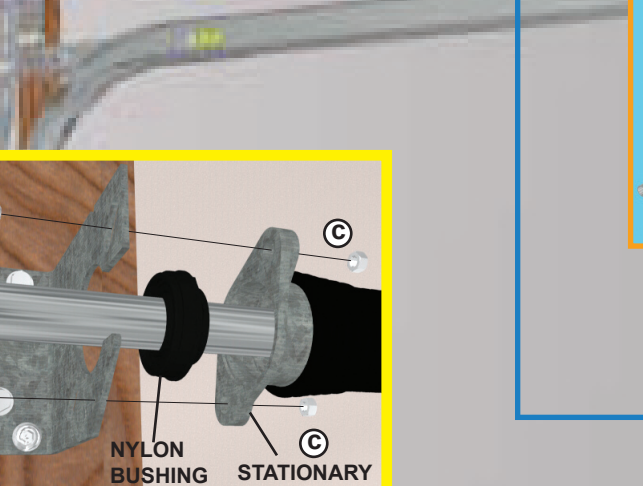
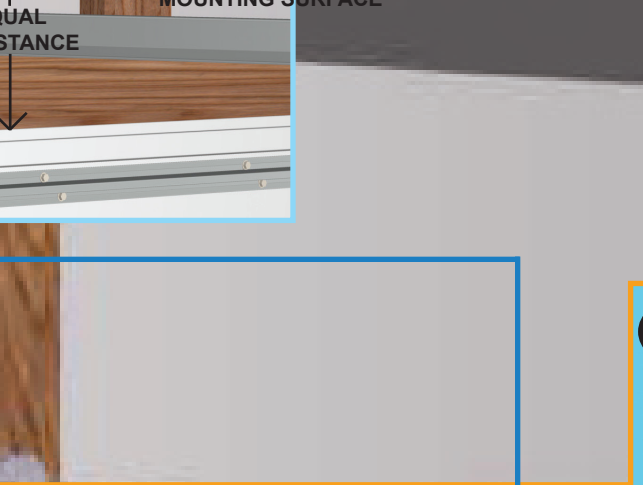
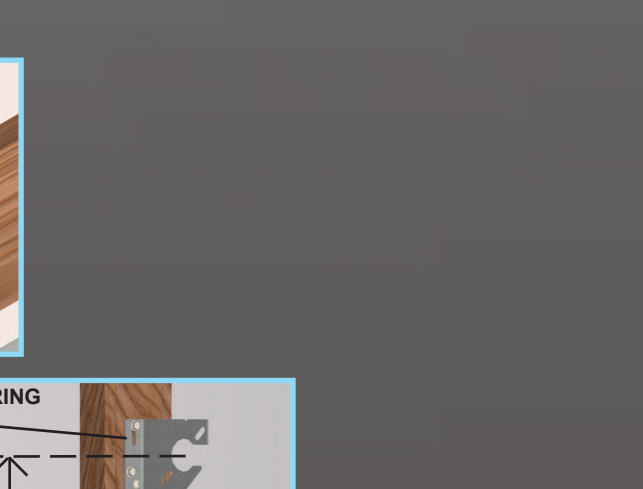
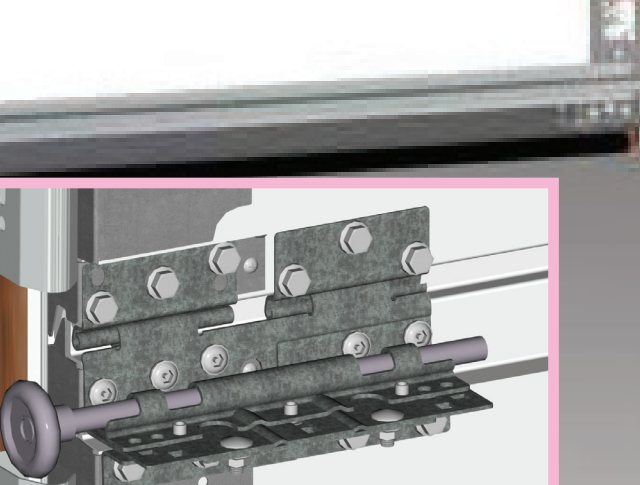
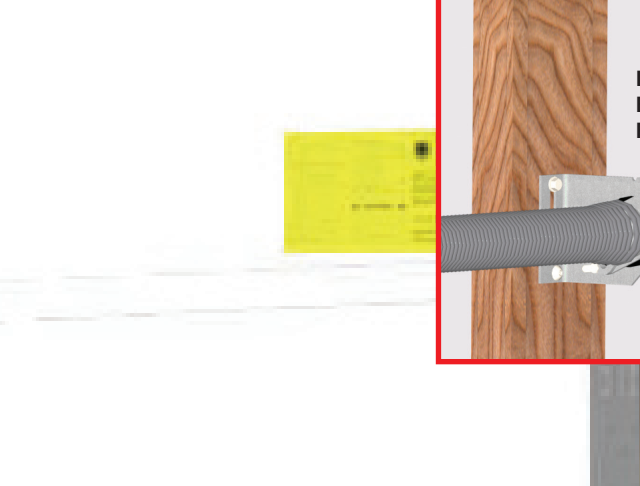
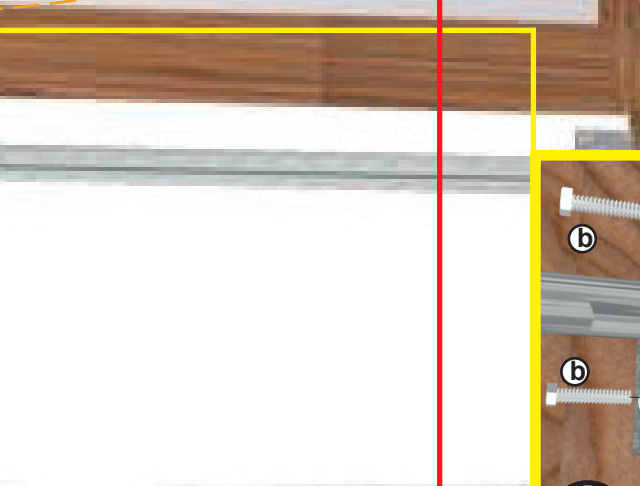
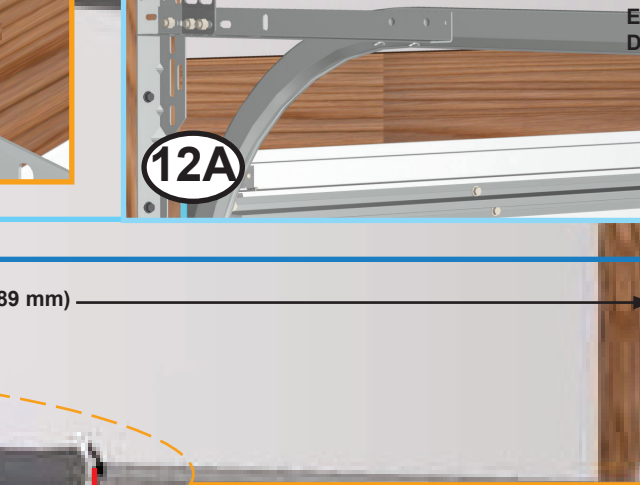
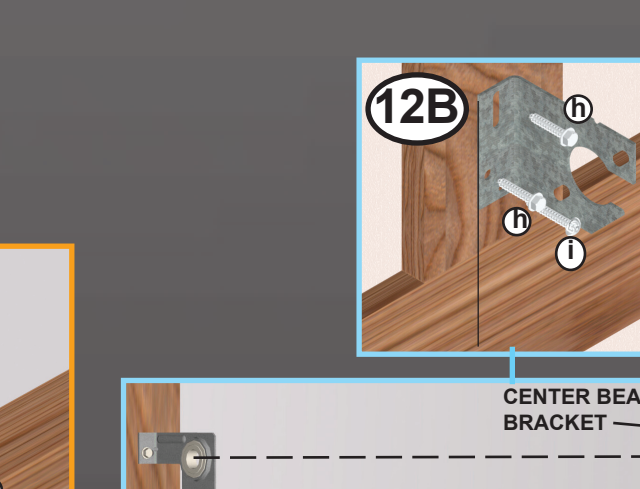
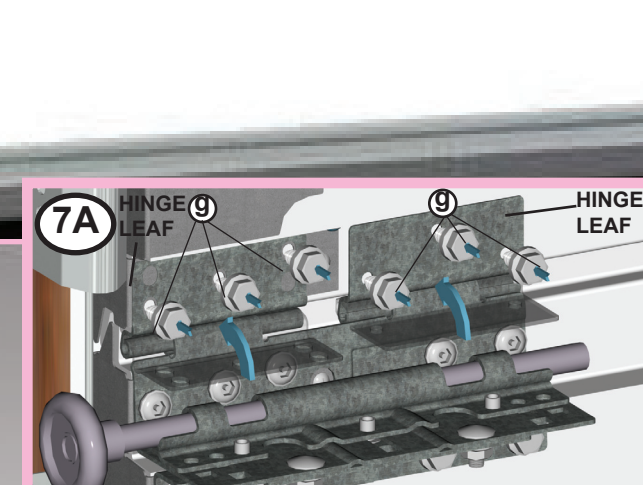
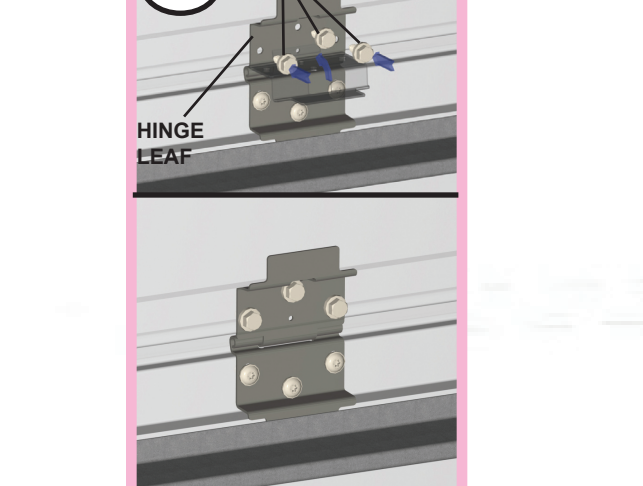
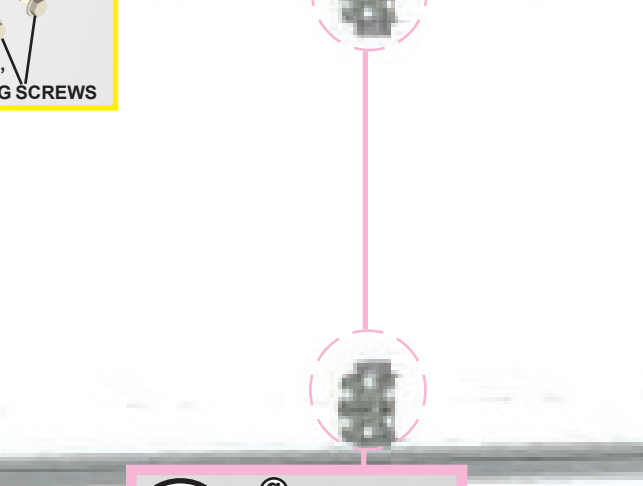
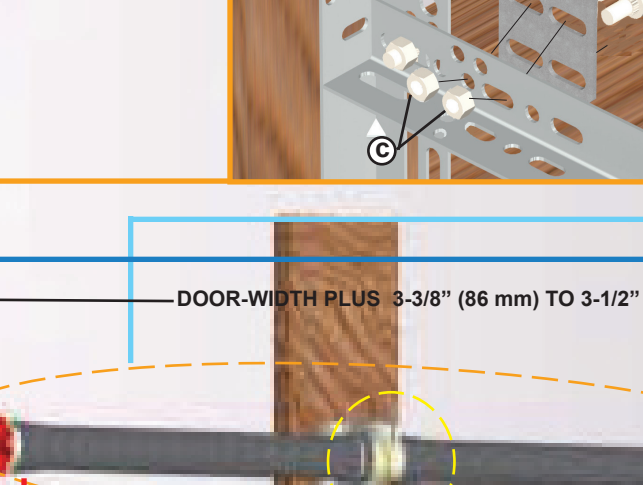
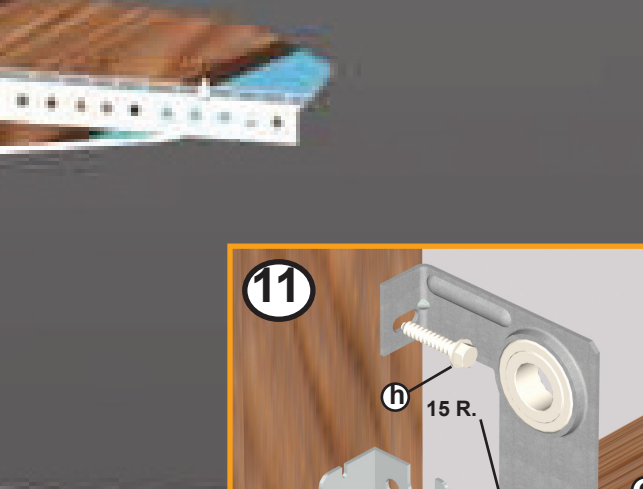
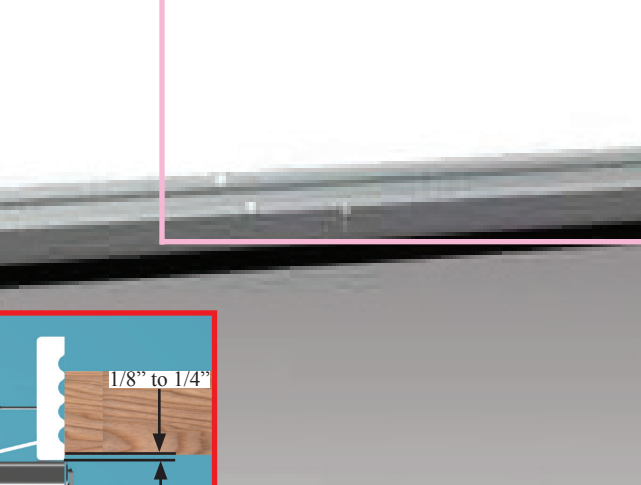
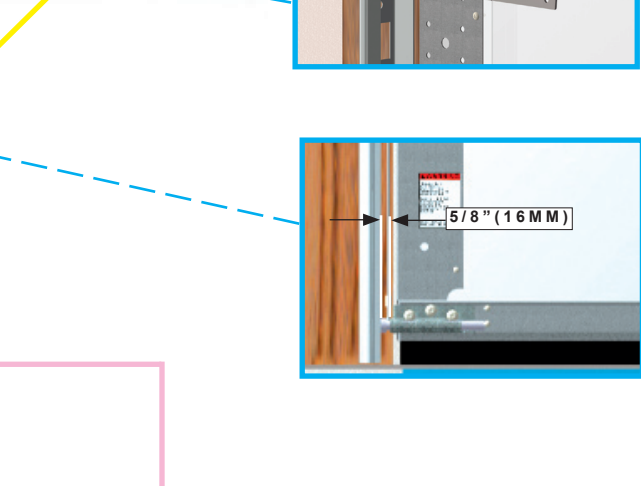
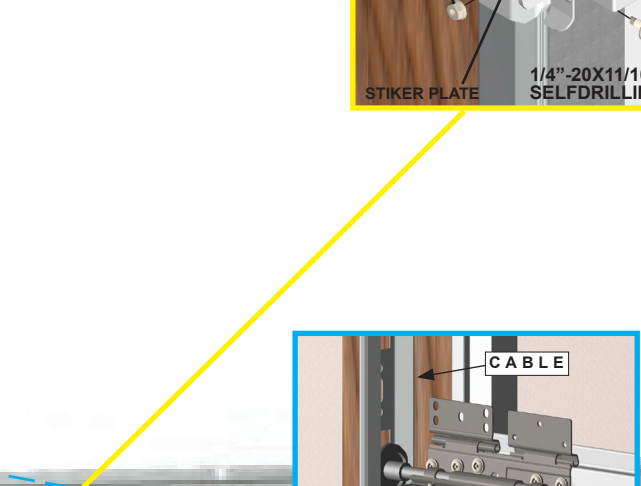
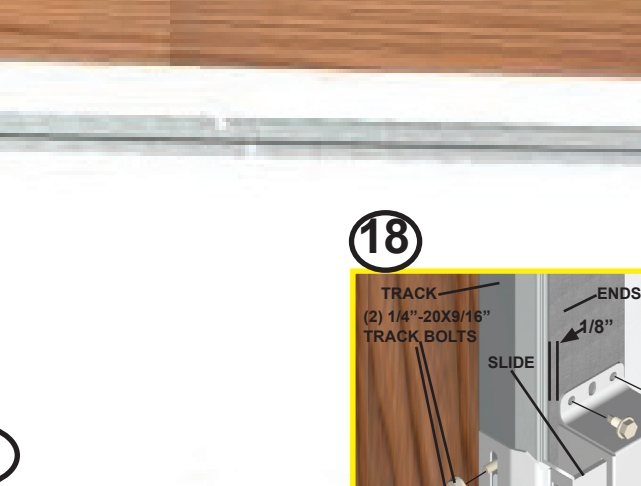
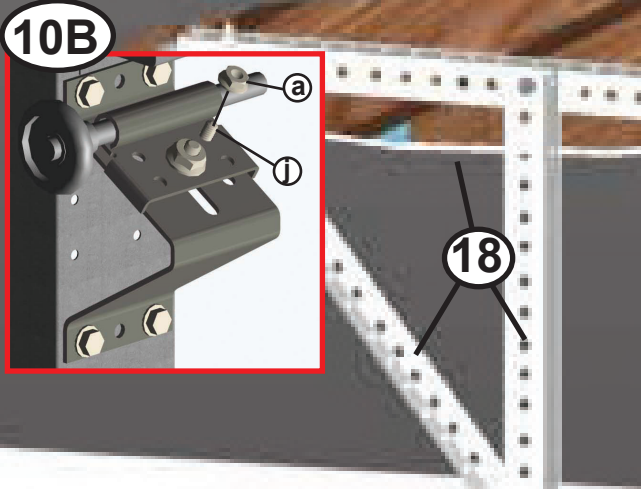
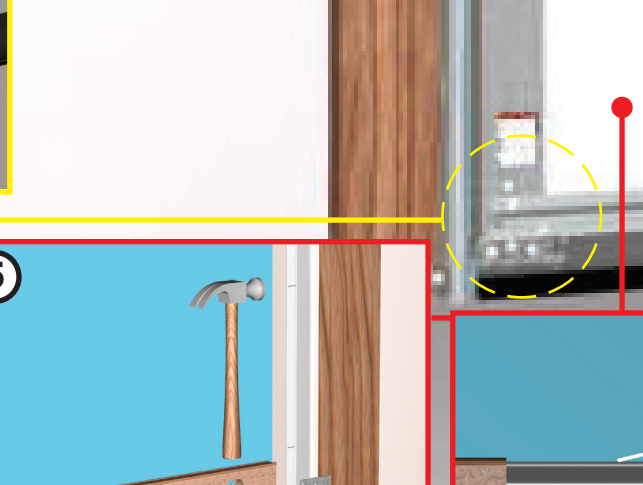
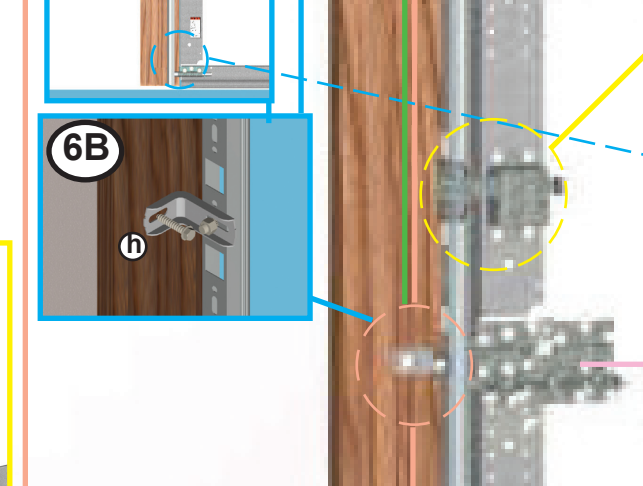
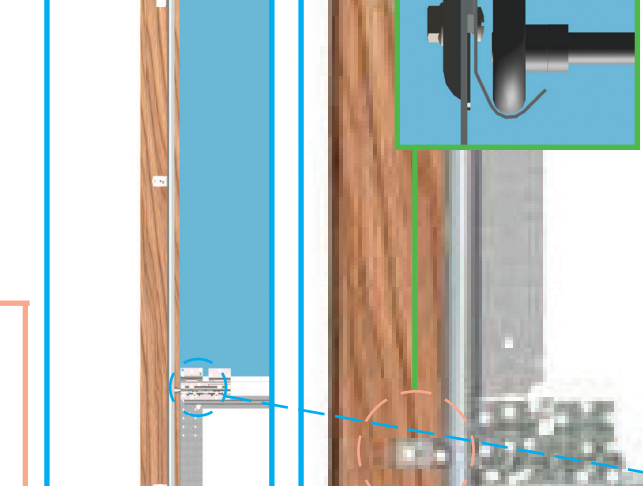
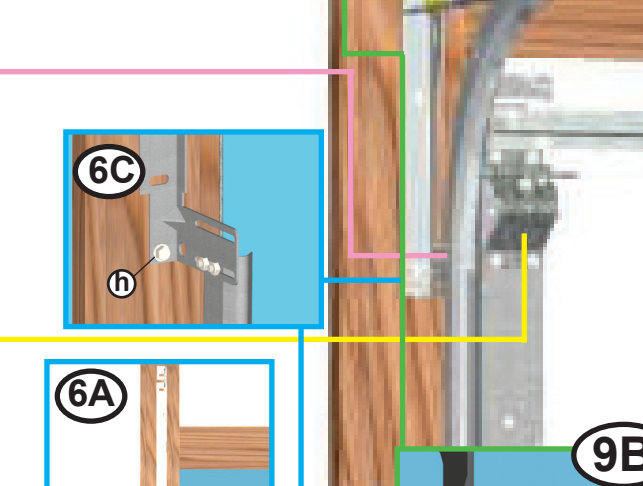
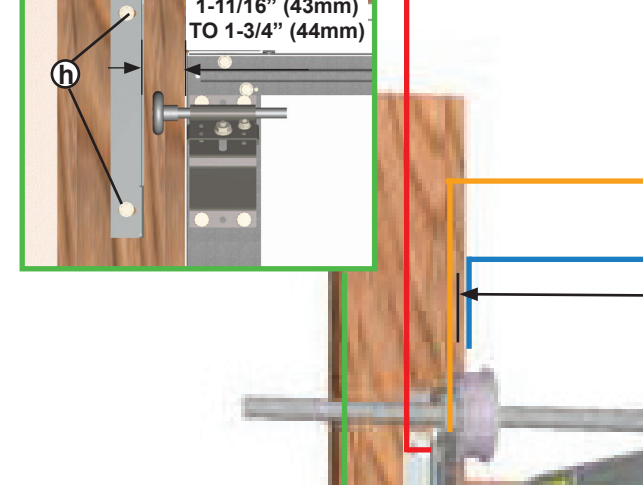
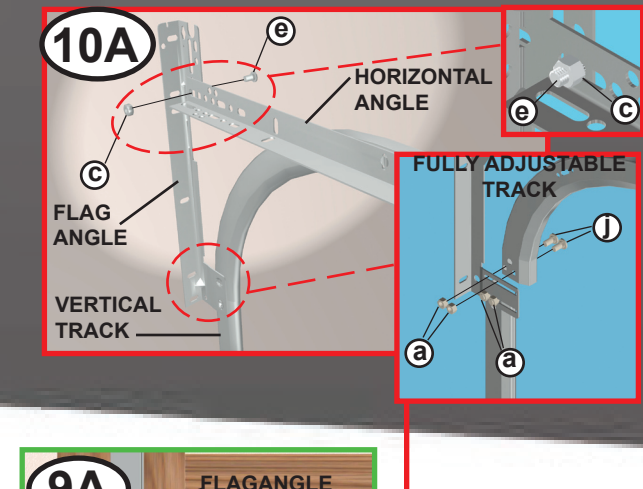
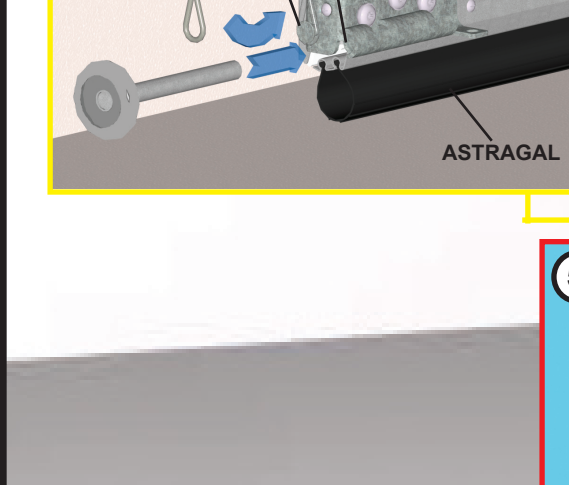
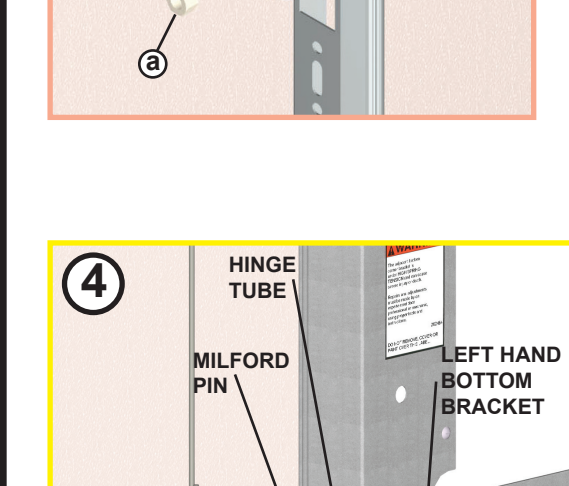
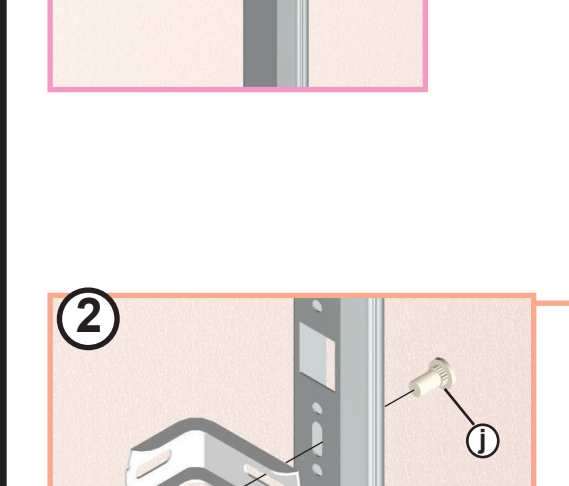
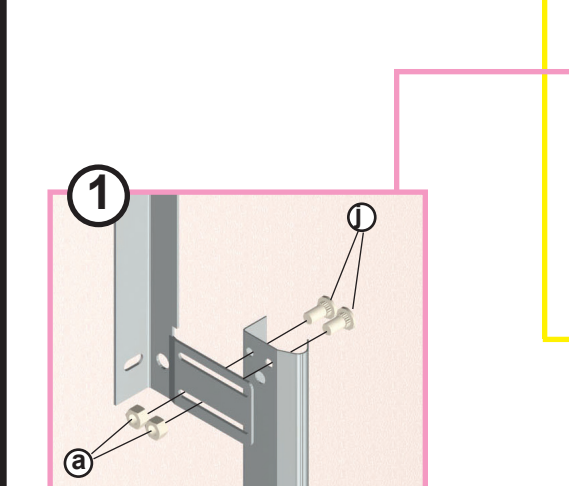
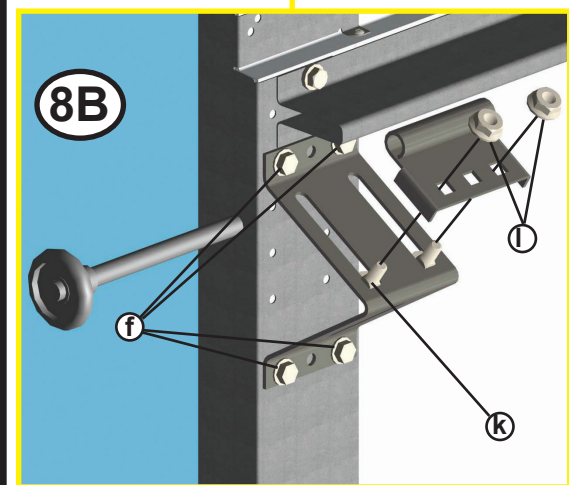
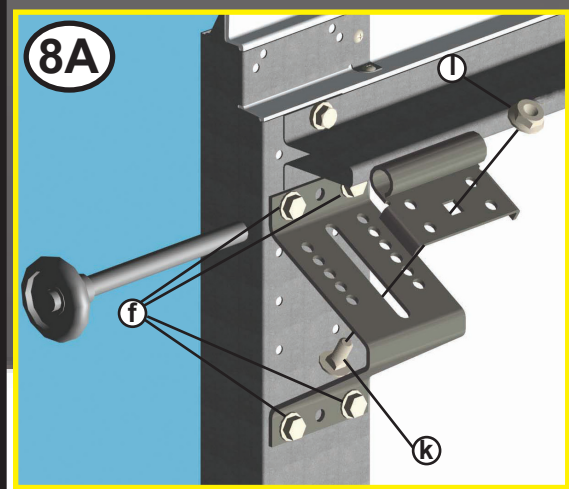
**IMPORTANT!** Vertical tracks must be secured so that rollers are touching the curved side of the vertical track, Fig 9B.

**IMPORTANT!** The dimension between the flagangles must be door-width plus 3-3/8" (86mm) to 3-1/2" (89mm) for smooth, safe door operation.



## 5500/9700 Series - Torsion™

## Windload Installation Instructions Layout



**10**  
To install horizontal track, place the curved end over the top roller. Align the bottom of the horizontal track with the top of the vertical track.

Secure each horizontal track to the corresponding flagangle with (2) 1/4"-20 x 9/16" track bolts and (2) 1/4"-20 nuts.

Level horizontal track and bolt the horizontal angle to the slot in the flagangle using (1) 3/8"-16 x 3/4" truss head bolt and nut. Repeat for other side. Remove the nail that was temporarily holding the top section in place. With horizontal tracks installed, you can now adjust the top brackets. Vertically align the top section with the lower sections. Once aligned, position top roller in the adjustable slide, out against the horizontal track. Maintaining the slide's position, tighten the nut(s) to secure the slide to the top bracket. Repeat for other side.

**NOTE:** You will need to lock the top slide into place on the A-frame (8A) bracket using a 1/4"-20 x 9/16" track bolt and 1/4"-20 hex nut through any two aligning holes.

**IMPORTANT!** Failure to remove nail before attempting to raise door could cause permanent damage to top section.

**⚠WARNING!**  
**DO NOT RAISE DOOR UNTIL HORIZONTAL TRACKS ARE SECURED AT REAR, AS OUTLINED IN STEP 18, OR DOOR COULD FALL FROM OVERHEAD POSITION CAUSING SEVERE OR FATAL INJURY.**

**11**  
End bearing brackets are right and left. Using the upper slots in the end bearing bracket, position above the flagangle and secure the end bearing bracket to the horizontal angle using (2) 3/8"-16 x 3/4" truss head bolts and nuts, Fig. 11. Once the bracket is secured to the horizontal angle, secure the top of the end bearing bracket to the jamb using (1) 5/16" x 1-5/8" lag screw. Repeat for other side.

**NOTE:** Right and left hand is always determined from inside the building looking out.  
**IMPORTANT!** End bearing brackets must be attached through the upper slots on 15" radius track.

**12**  
Measure to locate the center of the door and mark a vertical pencil line on the mounting surface to indicate the center line of the door. Then measure from the center of the bearing, in one of the end bearing brackets, DOWN to the top of the door. Using that dimension, measure UP from the top of the door and mark a horizontal pencil line on the mounting surface. The two pencil lines should intersect. Now align the edge of the center bearing bracket along the vertical pencil line on the mounting surface, Fig. 12A. This will ensure the torsion tube is level between the center and end bearing brackets. Attach the center bearing bracket, in this location, to the mounting surface, using (2) 5/16" x 1-5/8" lag screws and (1) 5/16" x 2" tamper-resistant lag screw.

**IMPORTANT!** Use the 5/16" x 2" tamper-resistant lag screw **ONLY** if mounting surface mounted over masonry.  
**IMPORTANT!** Tamper-resistant lag screw **MUST** be attached through the bottom hole of the center bearing bracket.

**13**  
Facing the inside of the door, lay the torsion tube on the floor. Lay the spring with the black color coded winding cone and the black color coded cable drum, at the right hand end of the tube. Lay the spring with the red color coded winding cone and the red color coded cable drum, at the left hand end of the tube.

**NOTE:** Some lighter weight doors are provided with only (1) torsion spring. Identify the spring(s) provided as either right hand wound (red winding cone), which goes on the LEFT HAND SIDE or left hand wound (black winding cone), which goes on the RIGHT HAND SIDE.

**NOTE:** The set screws used on all torsion counterbalance winding cones and cable drums, are now colored red. **DO NOT** identify right and left hand by the set screw color.

Slide the nylon center bushing onto the torsion tube followed by the spring(s) and cable drums. The nylon center bushing, spring(s) and cable drums must be positioned as shown, Fig. 13. With assistance, pick up the torsion tube assembly and slide one end of the tube through one end bearing bracket. Lay the torsion tube into the center bearing bracket and slide the other end of the tube into the opposite end bearing bracket. Position the torsion tube so that equal amounts of the tube extend from each end bearing bracket.

**14**  
Slide the nylon center bushing into the stationary spring cone at the end of the spring and align the stationary spring cone(s) with the holes in the center bearing bracket, Fig. 14. Secure the spring(s) to the center bearing bracket with (2) 3/8"-16 x 1-1/2" hex head bolts and nuts.

**IMPORTANT!** Springs under tension can be dangerous.  
Ensure that the spring warning tag supplied is securely attached to center bearing bracket in plain view. Should a replacement spring warning tag be required, contact Wayne-Dalton Corp. for free replacements. Clamp locking pliers onto both vertical tracks just above the third roller. This is to prevent door from raising while winding the spring(s).

**⚠WARNING!**  
**FAILURE TO CLAMP LOCKING PLIERS TO VERTICAL TRACK BEFORE WINDING SPRINGS CAN ALLOW DOOR TO RAISE, POSSIBLY RESULTING IN SEVERE OR FATAL INJURY.**

**15**  
Thread the counterbalance cables around the back side of the cable drums and verify that there is no cable obstructions.

Hook the cables into the drums. Slide the left hand cable drum against the left hand end bearing bracket and tighten the set screws in the drum to 14-15 ft. lbs. of torque (Once set screws contact the tube, tighten screws one full turn). Rotate the left hand drum and torsion tube until cable is taut. Attach locking pliers to torsion tube and brace locking pliers against jamb to keep cable taut. Slide the right hand cable drum against the right hand end bearing bracket and rotate drum until cable is taut. Tighten set screws in right hand cable drum.

**CAUTION!** Check each cable, making sure both are seated properly on the cable drums and have equal cable tension.

**16**  
Position a ladder slightly to the side of spring so that the winding cone is easily accessible, yet your body is not in direct line with the winding bars. Check the label attached to the spring warning tag for the required number of complete turns to balance your door.

8'0" Door Height = Approx 8-3/4 Turns

**⚠WARNING!**  
**PRIOR TO WINDING OR MAKING ADJUSTMENTS TO THE SPRINGS, ENSURE YOU'RE WINDING IN THE PROPER DIRECTION AS STATED IN THE INSTALLATION INSTRUCTIONS. OTHERWISE THE SPRING FITTINGS MAY RELEASE FROM SPRING IF NOT WOUND IN THE PROPER DIRECTION AND COULD RESULT IN SEVERE OR FATAL INJURY.**

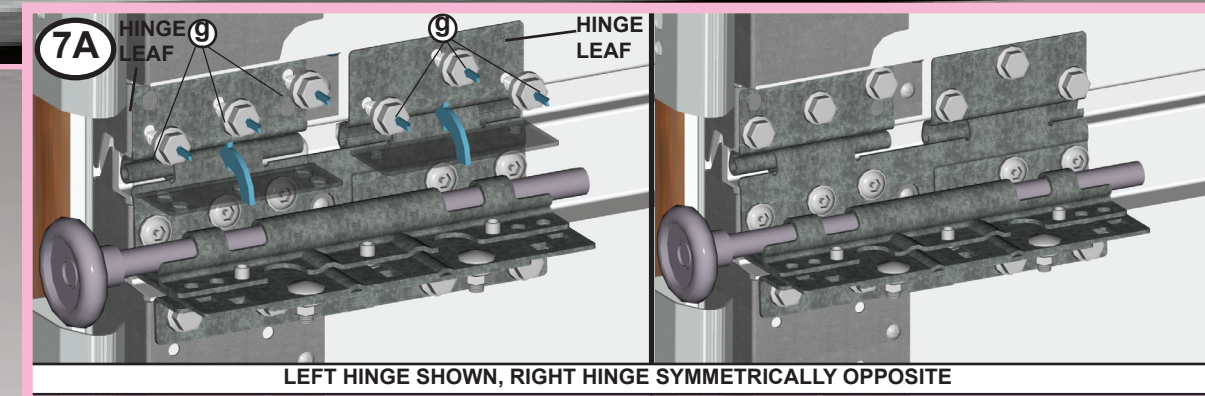
Alternately inserting the winding bars into the holes of the spring's winding cone, rotate the winding cone upward toward ceiling, 1/4 turn at a time, until the required number of complete turns for your door height is achieved. As the last 1/4 turn is achieved, securely hold winding bar while tightening both set screws in winding cone to 14-15 ft-lbs of torque (Once set screws contact the tube, tighten screws one full turn). Carefully remove winding bar from winding cone. If (2) springs were provided with your door, proceed to wind the second spring in the same manner.

While holding the door down, to prevent it from rising unexpectedly, in the event the spring(s) were overwound, carefully remove the locking pliers from the torsion tube and the vertical tracks. Raise the door until the top section and half of the next section are in a horizontal position. Do not raise door any further since rear of horizontal track is not yet supported.

**⚠WARNING!**  
**RAISING DOOR FURTHER CAN CAUSE DOOR TO FALL, POSSIBLY RESULTING IN SEVERE OR FATAL INJURY.**

Now clamp a pair of locking pliers to the vertical tracks just above the second roller on one side, and just below the second roller on the other side. This will prevent the door from raising or lowering while installing the rear support.

CONTINUE INSTALLATION INSTRUCTIONS ON REVERSE SIDE....



LEFT HINGE SHOWN, RIGHT HINGE SYMMETRICALLY OPPOSITE



### Required Tools

The tools and hardware are organized as follows:

- Tools:**
  - (1) Pliers
  - (1) Screw Driver (Phillips Blade)
  - (1) Level (2' Minimum Length)
  - (1) Ratchet with 7/16", 1/2", 9/16" sockets
  - (1) Tape Measure
  - (1) 7/16" Wrench
  - (1) 9/16" Wrench
  - (1) Screw Driver (Standard Blade)
  - (1) Electric Drill with Clutch
  - Safety Glasses
  - (1) Hammer
  - (1) Step Ladder
  - Gloves
  - (2) Locking Pliers
  - 1/8" Drill Bit
  - 3/16" Drill Bit
  - (2 or 3) Saw Horses or other supports for placing sections on while assembling
- Hardware:**
  - a) 1/4"-20 Flanged Hex Nut #100279
  - c) 3/8"-16 Hex Nut #100313
  - d) 1/4"-20 x 5/8" Carriage Bolt #306657
  - f) 1/4"-20 x 11/16" Self Drilling Screw #300723
  - h) 5/16" x 1-5/8" Hex Head Lag Screw #100292
  - j) 1/4" -20 x 9/16" Track Bolt #200527
  - i) 5/16"-18 Flanged Hex Nut
  - b) 3/8"-16 x 1-1/2" Hex Head Bolt #107645
  - e) 3/8"-16 x 3/4" Truss Head Bolt #154531
  - g) 1/4"-14 x 5/8" Self Tapping Screw #236565
  - i) 5/16" - 2" Tamper-Resistant Lag Screw #141888
  - k) 5/16" - 18 x 5/8" Carriage Bolt #108446